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L1: Entry 1 of 1 File: USPT Oct 24, 2000

DOCUMENT-IDENTIFIER: US 6138196 A
TITLE: Communication system for providing digital data transfer, electronic equipment for transferring data using the communication system, and an interface control device

Drawing Description Paragraph Right (5):
FIG. 4 is a diagram showing the contents of a configuration ROM, addresses being allocated in the manner illustrated in FIG. 3.

Drawing Description Paragraph Right (9):
FIG. 8 is a diagram illustrating node information stored in a configuration ROM provided in the equipment shown in FIG. 7.

Detailed Description Paragraph Right (19):
The first 512 bytes of the register space include a kernel of a known CSR architecture, and the next 512 bytes are used as a serial bus register. The specific contents of these areas are well known and the detailed description thereof is omitted. These areas and the next 1024-byte configuration ROM and a portion of a unit space are implemented on each equipment.

Detailed Description Paragraph Right (20):
The configuration ROM is structured, for example, as shown in FIG. 4 in order to describe the functions of each node. An offset address shown in FIG. 4 indicates a relative address from "FFFFF0000000", and the configuration ROM is located from "FFFFF0000400".

Detailed Description Paragraph Right (55):
Reference numeral 8 represents a first configuration ROM (CR1) which constitutes the already-described configuration ROM. This first configuration ROM stores node information for a first protocol which is used for the transmission via the 1394 bus 13 of the moving image signal sig1 and its associated command/status information, the moving image signal being obtained by a digital moving image camera/recorder (first unit) realized by a combination of the image pickup unit 1 and video processing unit 2. Proper node information in this operation state of the equipment is stored in advance in the first configuration ROM 8 during the manufacture.

Detailed Description Paragraph Right (56):
Reference numeral 9 represents a second configuration ROM (CR2). This second configuration ROM stores node information for a second protocol which is used for the transmission via the 1394 bus 13 of the still image signal sig2 and its associated command/status information, the still image signal being obtained by a digital still image camera/recorder (second unit) realized by a combination of the image pickup unit 1 and camera processing unit 3. Proper node information in this operation state of the equipment is stored in advance in the second configuration ROM 9 during the manufacture.

Detailed Description Paragraph Right (61):
FIG. 8 is a diagram showing node information of CAM as viewed from the 1394 bus 13, the node information being mapped in the configuration ROM and the unit controlling command/status register. As shown, in this embodiment, the configuration ROM is constituted of the first and second configuration ROMs 8 and 9 (CR1, CR2).

Detailed Description Paragraph Right (62):
Specifically, in this embodiment, in accordance with the status of the electronic equipment (whether it is used as the digital moving image camera/recorder or the digital still image camera/recorder), one of the first and second configuration ROMs 8 and 9 can be selected from the bus. Irrespective of which one of the configuration ROMs 8 and 9 is used, the C & S register 10 is used as the common area RAM.

Detailed Description Paragraph Right (65):
It is assumed that the electronic equipment of this embodiment having the structure shown in FIG. 7 operates as the digital moving image camera/recorder and communicates with another node by supplying node information onto the 1394 bus 13 via the 1394 serial bus I/F circuit 5, under the first subsidiary communication protocol stored in the first configuration ROM (CR1) 8.

Detailed Description Paragraph Right (80):
The digital still image camera/recorder (second unit) is reconfigured and the C & S register 10 is set for use with the digital still image camera/recorder. Next, in order to change the node information of the 1394 serial bus I/F circuit 5 from the first configuration ROM 8 to the second configuration ROM 9, the address setting of the I/F control and address conversion circuit 7 is changed. Namely, since the configuration ROMs 8 and 9 are located at different addresses in the above-described address space, the address setting is changed to select the second configuration ROM 9.

Detailed Description Paragraph Right (81):
Thereafter, in order to reconfigure the management configuration of the 1394 serial bus 13 under the reset state, the bus interconnection of the 1394 serial bus I/F circuit 5 is recovered. In this manner, the electronic equipment of this embodiment is newly defined as the digital still image camera/recorder having the still image subsidiary communication protocol, in accordance with the new bus management configuration and the node information in the second configuration ROM 9. This new definition is detected by the root node which controls the bus management of the system shown in FIG. 5, and therefore recognized by the system.

Detailed Description Paragraph Right (87):
If changed to the digital video (moving image camera/recorder), the flow advances to Step S4 to perform the unit control corresponding to the system configuration of the digital video, at Step S5 the C & S register 10 is set for use with the digital video, and at Step S6 the address setting of the I/F control and address conversion circuit 7 is changed in order to set the node information of the 1394 serial bus I/F circuit 5 to have the information stored in the first configuration ROM 8.

Detailed Description Paragraph Right (88):
If it is judged at Step S3 that the equipment has been changed to the digital camera (still image camera/recorder), the flow advances to Step S7 to perform the unit control corresponding to the system configuration of the digital camera, at Step S8 the C & S register 10 is set for use with the digital camera, and at Step S9 the address setting of the I/F control and address conversion circuit 7 is changed in order to set the node information of the 1394 serial bus I/F circuit 5 to have the information stored in the second configuration ROM 9.

Detailed Description Paragraph Right (89):
After the processes at Steps S4 to S6 or Steps S7 to S9, the reset state of the 1394 serial bus 13 started at Step S2 is released to recover the bus connection of the 1394 serial bus I/F circuit 5. At Step S11 the root node executes a new bus management process after the system change and recognizes the equipment of this embodiment either as the moving image camera/recorder having the AV/C protocol or as the still image camera/recorder having the still image subsidiary communication protocol, in accordance with the contents of the configuration ROM 8 or 9.

Detailed Description Paragraph Right (91):
As described above, the electronic equipment of this embodiment has configuration ROMs which store information on a plurality of functional units and a plurality of subsidiary communication protocols, and the system can selectively use one of a plurality of subsidiary communication protocols and one of a plurality of functional units.

L4: Entry 1 of 3 File: USPT Sep 15, 1998

DOCUMENT-IDENTIFIER: US 5809331 A
TITLE: System for retrieving configuration information from node configuration memory identified by key field used as search criterion during retrieval

Detailed Description Paragraph Right (20):
FIG. 6 provides a flow diagram for the above search routine. At step 200, an iterator is created to be used as a place holder during the search. Unless otherwise specified (see the general search routine below), the iterator defaults to a setting to allow a search of the entire configuration ROM 50 of the specified node (by referenceID). That is, the search will begin at the root directory (see FIG. 3) and continue through all directories and leafs in the configuration ROM. At step 210, the search criteria are defined for a unit directory search. For this example, the search criteria are the key types and key values corresponding to the node SWVersion and Spec.sub.-- ID parameters. The search of a first unit directory begins at step 220. The routine searches the first unit directory for the specified configuration ROM for entries corresponding to the Spec.sub.-- ID at step 240 and returns the entry values which are located using this search parameter at step 250. The routine then searches the first unit directory for the specified configuration ROM for entries corresponding to the software version number at step 270 and returns the entry values which are located using this search parameters at step 280. As discussed above, these values can be used to load the appropriate driver software. At step 290, the search moves to the next unit directory within the prescribed CSR configuration ROM and the retrieval process continues until the entire CSR configuration ROM has been searched. When the address space has been searched completely, the Done parameter will be set to true. The search routine checks the Done parameter at step 230. When Done is true, the process quits at step 300.

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L3: Entry 28 of 50 File: USPT May 13, 1997

DOCUMENT-IDENTIFIER: US 5630076 A
TITLE: Dynamic device matching using driver candidate lists

Detailed Description Paragraph Right (66):
With reference to FIG. 9, a flow diagram is illustrated describing the logic steps of the logic 305 of the present invention DLL 45 in constructing a candidate list of drivers for the selected device. Logic 305 starts at block 410 wherein pertinent information regarding the device nodes of the device tree 10 database are accessed for the particular device. If the particular device has an associated driver within its node of the device tree 10 (e.g., a "default driver"), processing continues because this default driver can become replaced by an updated driver depending on the priority of the drivers in the candidate list built for the selected device. At block 410, the present invention obtains the following properties: (1) the device name 50; and (2) the compatible names 60a of the selected device (see FIG. 4) located within the compatible property 60. After the information of logic block 410 is accessed, the present invention at logic block 420 then access the available drivers recognized in the system to construct a first set of drivers. These drivers may reside in the device tree 10 database, in the ROM 103, in RAM 102 and in the extensions folder (e.g., device driver folder) of the disk drive 104. At block 430, the present invention selects a first driver for comparison. This driver is the "given driver." At block 430, the candidate list for the selected device is then cleared so the new list can be created.

Detailed Description Paragraph Right (142):
The following is a short description of a boot sequence (e.g., for PCI standard): 1. Hardware reset. 2. Open Firmware creates the device tree. This device tree is composed of all the devices found by the Open Firmware code including all properties associated with those devices. 3. The Name Registry device tree is created by copying the Macintosh-relevant nodes and properties from the Open Firmware device tree. 4. The Code Fragment Manager and the Interrupt Tree are initialized. 5. Device properties that are persistant across system startups and are located in NVRAM are restored to their proper location in the Name Registry device tree. 6. The Name Registry device tree is searched for PCI expansion ROM device drivers associated with device nodes. 7. PCI expansion ROM device drivers required for booting are loaded and initialized. 8. If a PCI ROM device driver is marked as kdriverIsLoadedUponDiscovery, the driver is installed in the Device Manager Unit Table. 9. If a PCI ROM device driver is marked as kdriverIsOpenedUponLoad, the driver is initialized and opened, and the driver-ref property is created for the driver's device node. 10. The Display Manager is irritated. 11. The SCSI Manager is initiated. 12. The File Manager and Resource Manager are initialized. 13. Device properties that are persistent across system startups and located in the folder System Folder: Preferences are restored to their proper location in the Name Registry device tree.

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L6: Entry 2 of 23 File: USPT Oct 2, 2001

DOCUMENT-IDENTIFIER: US 6298443 B1
TITLE: Method and system for supplying a custom software image to a computer system

Abstract Paragraph Left (1):
A method and system for supplying a software image to a computer system utilize a custom-programmed compact disk (CD) ROM that is configured for a specified individual computer system and constrained to be downloaded to and operable on only the specified individual computer system. The method and system further utilize an installation procedure for restoring the specified computer system to the software state that the computer was in at the time the computer left the factory after initial configuration and downloading. The custom-programmed CD ROM 106 is delivered to a customer in combination with a bootable flexible diskette 108, and an instructional technical instruction sheet for usage by the customer to restore the computer system to a "factory new" software condition.